Work Order ID 32630

Wednesday, February 17, 2010 8:50:05 AM

Item ID: D3391-011 **Accept** **Setup Start**

Revision ID: H **Stop**

Item Name: Fwd Tube Assembly

Start Date: 7/15/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 8/3/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:** **Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D3391	Rev H								
100	Skidtubes	0.00							
Skidtubes	**Memo**	0.00							
Skidtubes	Cut extrusion to 46.52 +0.010 -0.020								
110	BENDING MACHINE - SKIDTUBES	0.00							
CNC Bend 1	**Memo**	0.00							
CNC Delta 100 Bender	Bend as per Dwg D3391								
120	QC5- Inspect part completeness to step on W/O	0.00							
QC	**Memo**	0.00							
Quality Control									

Work Order ID 32630

Wednesday, February 17, 2010 8:50:05 AM

Item ID: D3391-011 **Accept** **Setup Start** **Stop**

Revision ID: H

Item Name: Fwd Tube Assembly

Start Date: 7/15/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 8/3/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130		0.00							
HAAS 1	HAAS CNC VERTICAL MACHINING #1								
HAAS CNC vertical machine #1	**Memo**	0.00							
	1-Machine as per Folio FA590 Rev. ____ & Dwg D3391 Rev. ____ ☐Identify as D3391-1 ☐2-Deburr								
140	QC2- Inspect parts off machine FAI/FAIB	0.00							
QC	**Memo**	0.00							
Quality Control									
150		0.00							
Mill Conv	CONVENTIONAL MILLING MACHINE								
Conventional Milling Machine	**Memo**	0.00							
	1-Drill .1875" at end of tube as per Dwg D3391								

Work Order ID 32630

Wednesday, February 17, 2010 8:50:05 AM

Item ID: D3391-011 **Accept** **Setup Start**

Revision ID: H **Stop**

Item Name: Fwd Tube Assembly

Start Date: 7/15/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 8/3/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Stop

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC2- Inspect parts off machine FAI/FAIB	0.00							
QC	**Memo**	0.00							
Quality Control									
170	QC8- Inspect parts - second check	0.00							
QC	**Memo**	0.00							
Quality Control									
180		0.00							
Skidtubes	Skidtubes								
Skidtubes	**Memo**	0.00							
Skidtubes	1-Drill and c'sink float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)□(DRILL ALL HOLES)□2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step□3-Open tow cap holes								

Work Order ID 32630

Wednesday, February 17, 2010 8:50:05 AM

Item ID: D3391-011 **Accept** **Setup Start**

Revision ID: H **Stop**

Item Name: Fwd Tube Assembly

Start Date: 7/15/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 8/3/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:** **Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190	QC5- Inspect part completeness to step on W/O	0.00							
QC	**Memo**	0.00							
Quality Control									
200	Chemical Conversion Coat per QSI005 4.1	0.00							
HandFinish	**Memo**	0.00							
Hand Finishing									
210	QC3- Inspect Part Finish	0.00							
QC	**Memo**	0.00							
Quality Control									

Work Order ID 32630

Wednesday, February 17, 2010 8:50:05 AM

Item ID: D3391-011 **Accept** **Setup Start** **Stop**

Revision ID: H

Item Name: Fwd Tube Assembly

Start Date: 7/15/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 8/3/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start **Stop**

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	Skidtubes	0.00							
Skidtubes	**Memo**	0.00							
Skidtubes	1-Install crossbolt spacers per dwg D3391 ☐A/R Magnabond 6398 batch:_____ ☐2- Grind flush ☐3- back drill crossbolt if necessary								
230	QC5- Inspect part completeness to step on W/O	0.00							
QC	**Memo**	0.00							
Quality Control									
240	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
Powdercoat	**Memo**	0.00							
Powder Coating	START TIME: _____ ☐OVEN TEMPERATURE: _____ ☐FINISH TIME: _____								

Work Order ID 32630

Wednesday, February 17, 2010 8:50:05 AM

Item ID: D3391-011 **Accept** **Setup Start**

Revision ID: H **Stop**

Item Name: Fwd Tube Assembly

Start Date: 7/15/2009 **Start Qty:** 1.00 **Cust Item ID:**

Required Date: 8/3/2009 **Req'd Qty:** 1.00 **Customer:**

Reference:

Run Start

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

Stop

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	QC3- Inspect Part Finish	0.00 ✓							
QC	**Memo**	0.00							
Quality Control									
260	Identify as per dwg & Stock Location:_____	0.00 ✓							
Packaging	**Memo**	0.00							
Packaging									
270		0.00							
Skidtubes	Skidtubes								
Skidtubes	**Memo**	0.00							
Skidtubes	**** install D3591-1 spacer as per DSI9364 ****								

Work Order ID 32630

Wednesday, February 17, 2010 8:50:05 AM

Item ID: D3391-011
Revision ID: H
Item Name: Fwd Tube Assembly

Start Date: 7/15/2009 **Start Qty:** 1.00
Required Date: 8/3/2009 **Req'd Qty:** 1.00
Reference:

Accept **Setup Start** **Stop**

Cust Item ID:
Customer:

Run Start **Stop**

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280	QC21- Final Inspection - Work Order Release	0.00							
QC	**Memo**	0.00					10/22/18		
Quality Control									

MF
10-2-17

Report Rev G

Dart Aerospace Ltd.

Friday, 16/11/2007 12:14:56 PM
User: Linda Lacelle

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	**Drawing Name**	: FWD TUBE ASSEMBLY
Job Number	: 32630		
Estimate Number	: 11444		
P.O. Number	:	**Part Number**	: D3391011
This Issue	: 16/11/2007 **S.O. No.** :	**Drawing Number**	: D3391 REV.F
Prsht Rev.	: NC	**Project Number**	: N/A
First Issue	: 25/05/2007 **Type** : MACHINED PARTS	**Drawing Revision**	: F
Previous Run	:	**Material**	:
Written By	:	**Due Date**	: 20/06/2007 **Qty:** 1 **Um:** Each
Checked & Approved By	:		
Comment	: Est. A 05.09.13 New issue KJ/JLM Est. B 06.02.09 Dwg rev.D EC est C 07.03.13 revF dwg ec REPRINT FOR W/O ALREADY STARTED REV.G		

Additional Product

Job Number:

Seq. #:		Machine Or Operation:	Description :
1.0	✓	D6013047	SKIDTUBE MAT'L

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
SKIDTUBE MAT'L
Pick:

Qty	Part Number	Description	Batch
1	D6013-047	Extrusion	

2.0	✓	BENDING	BENDING MACHINE

Comment: Nc bender
Bend as per Dwg D3391

3.0	✓	QC5	INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP

4.0	✓	HAAS1	HAAS CNC VERTICAL MACHINING #1

Comment: HAAS CNC VERTICAL MACHINING #1
1-Machine as per Folio FA590 Rev. ____ & Dwg D3391 Rev. ____
Identify as D3391-1

2-Deburr

See Attached WO

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Friday, 16/11/2007 12:14:56 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** FWD TUBE ASSEMBLY

Job Number: 32630 **Part Number:** D3391011

Job Number:

Seq. #:	Machine Or Operation:	Description :
5.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE

Comment: INSPECT PARTS AS THEY COME OFF MACHINE * See Attached w/o S 08/07/16

6.0	QC8	SECOND CHECK

Comment: SECOND CHECK S 08/07/16 (4)

7.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Drill and c'sink float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size) (DRILL ALL HOLES)

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5-Drill wearplate holes as per Dwg D3391 Using Dt8217

6--Deburr

SL 8-7-24

8.0	HAND FINISHING1	HAND FINISHING RESOURCE #1

Comment: HAND FINISHING RESOURCE #1
Acid etch and Alodine as per QSI 005 4.1 SL 8-7-24

9.0	D36704200	SPACER

Comment: Qty.: 9.0000 Each(s)/Unit Total : 9.0000 Each(s)
SPACER
BATCH: 35938 SL 8-7-24

10.0	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1
1-Install crossbolt spacers per dwg D3391

A/R Magnabond 6398 batch: 107621 SL 8-7-24

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Friday, 16/11/2007 12:14:56 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** FWD TUBE ASSEMBLY

Job Number: 32630 **Part Number:** D3391011

Job Number:

Seq. #:	Machine Or Operation:	Description :
	2- Grind flush SL 8-7-29	
11.0	QC5	INSPECT WORK TO CURRENT STEP
	Comment: INSPECT WORK TO CURRENT STEP	08/7/30
12.0	POWDER COATING	POWDER COATING
	M 108523	(12)
	Comment: POWDER COATING Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3	08/07/30
13.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
	Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION	08/07/30 (1)
14.0	D3401041	Tow Cap Assembly
	Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s) Tow Cap Assembly Pick: Qty Part Number Description Batch 1 D3401-041 Tow Cap 636216	
15.0	D356413	WEARSHOE
	Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s) WEARSHOE 639791	
16.0	D356613	GASKET
	Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s) GASKET 639574	
17.0	D36721	PHENOLIC WASHER
	Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s) PHENOLIC WASHER 639295	08/07/30 (1)

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 16/11/2007 12:14:56 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** FWD TUBE ASSEMBLY

Job Number: 32630 **Part Number:** D3391011

Job Number:

Seq. #:	Machine Or Operation:	Description :
18.0	AN3C4A	BOLT

Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
Bolt
Pick:

Qty	Part Number	Description	Batch
4	AN3C4A	Bolt	m108599

FL

19.0	AN960C10L	washer

Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
Washer
Pick:

Qty	Part Number	Description	Batch
4	AN960C10L	Washer	m108672.

FL

20.0	ALS41032130	Insert

Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)
INSERT
or equivalent per QSI 017 m105819

FL

21.0	ALS41032225	Insert

Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
INSERT
or equivalent per QSI 017 m100489.

FL

22.0	HAND FINISHING1	HAND FINISHING RESOURCE #1

Comment: HAND FINISHING RESOURCE 1
Install inserts and Tow Cap as per Dwg D3391
Identify as D3391-021

FL 06/07/30 (1)

23.0	QC5	INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP
Inspect thread of each insert using DT8821

06/07/30

Form: rprocess

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 16/11/2007 12:14:56 PM
User: Linda Lacelle

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** FWD TUBE ASSEMBLY

Job Number: 32630 **Part Number:** D3391011

Job Number:

Seq. #:	Machine Or Operation:	Description :
24.0	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Identify and Stock
Location:_____

37506A 11

25.0	QC21	FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE

26.0 ✓	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1
Cut extrusion to 46.52 +0.010 -0.020

Job Completion

Form: rprocess

Dart Aerospace Ltd

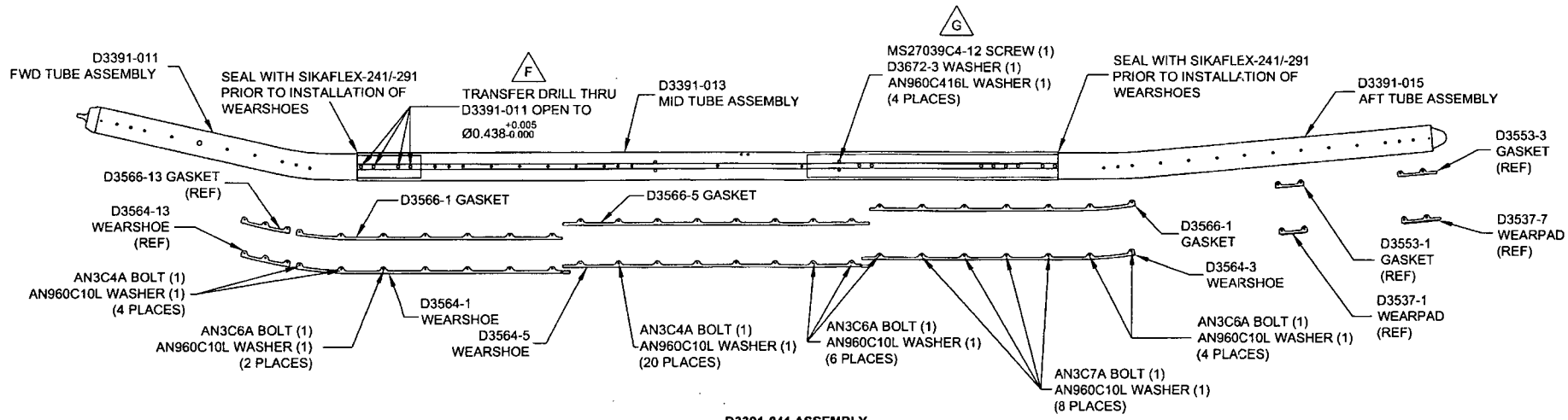
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041 ASSEMBLY

RELEASED
07.11.08

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

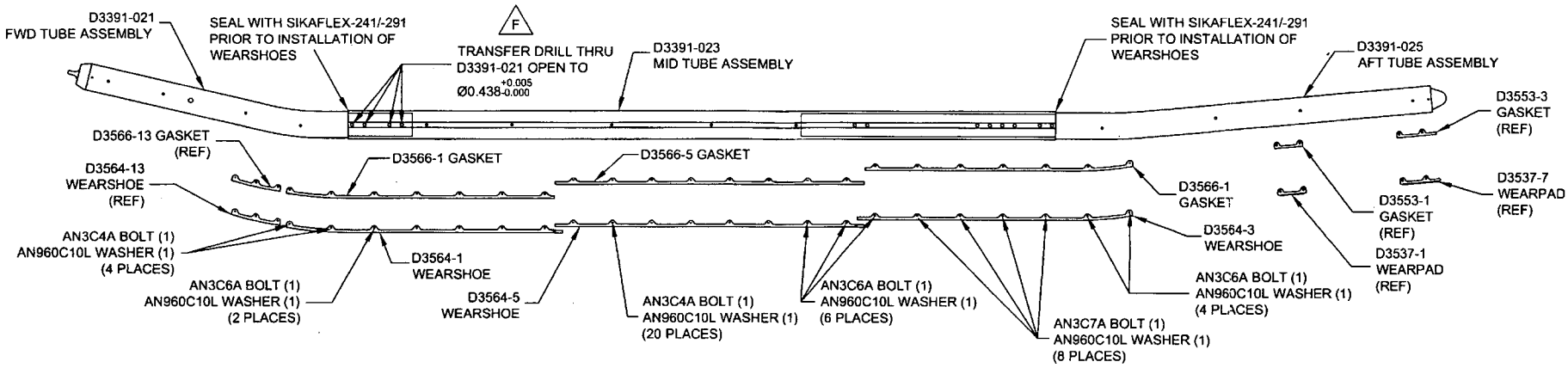
1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

REV.	DESCRIPTION	BY	DATE
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	SK	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	07.07.31		

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32630



D3391-043 ASSEMBLY

RELEASED
07.11.9

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

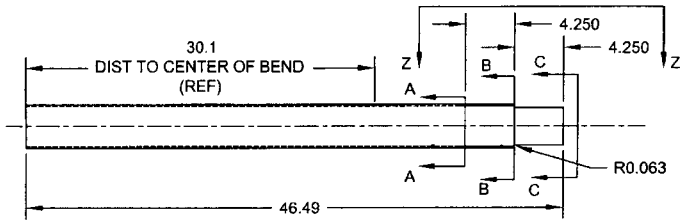
QTY -043	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

GENERAL NOTES

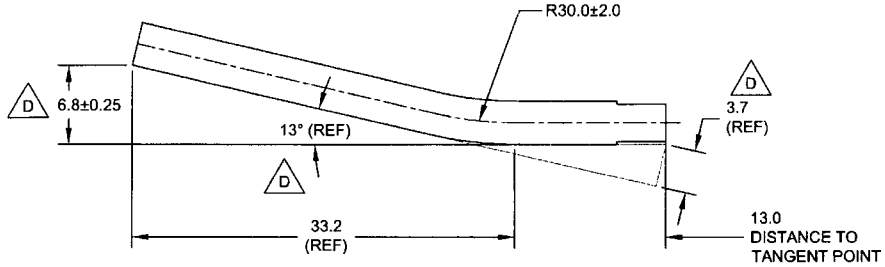
1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

DESIGN	PH	**DART AEROSPACE USA, INC** PORT HADLOCK, WA
DRAWN	STC	
CHECKED		DRAWING NO. D3391 REV. G
MFG. APPR.		SHEET 2 OF 8
APPROVED		TITLE 412 FLOAT SKIDTUBE SCALE NTS
DE APPR.		
DATE 07.07.31		

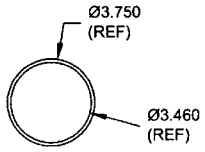
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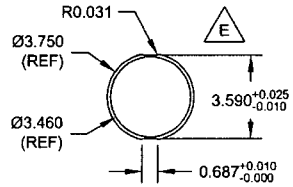
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



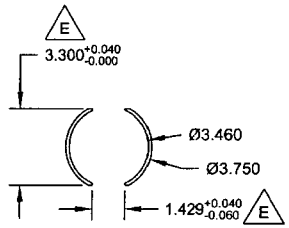
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



SECTION A-A
(SCALE 1:5)

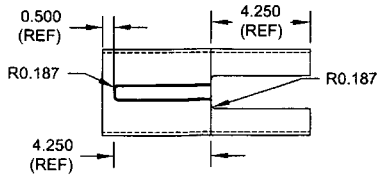


SECTION B-B
(SCALE 1:5)



SECTION C-C
(SCALE 1:5)

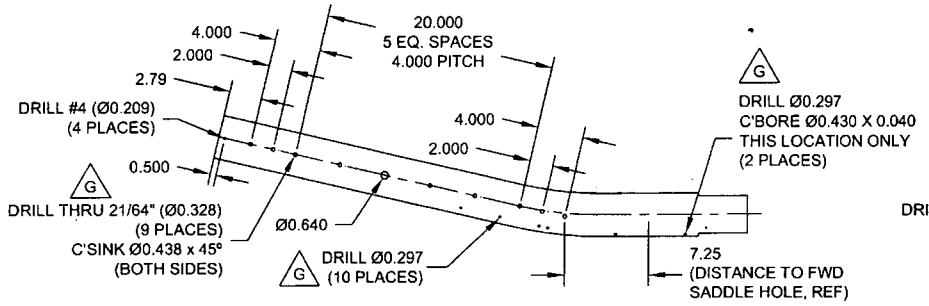
RELEASED
07.11.06 MP



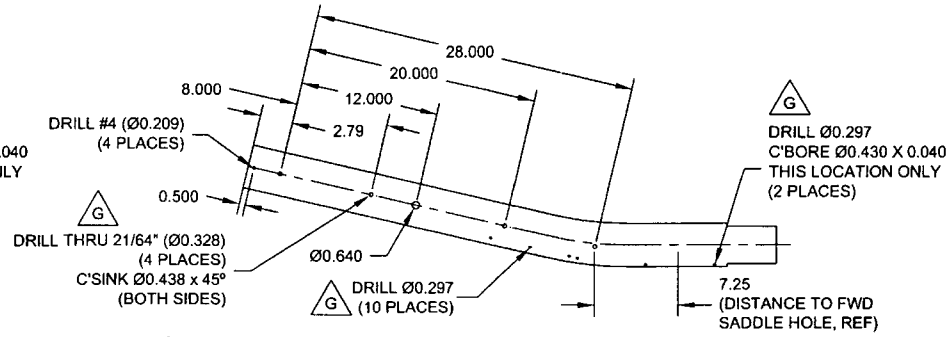
VIEW Z-Z
(SCALE 1:5)

DESIGN		**DART AEROSPACE USA, INC**	
DRAWN	BC	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	1:10
DATE	07.07.31		

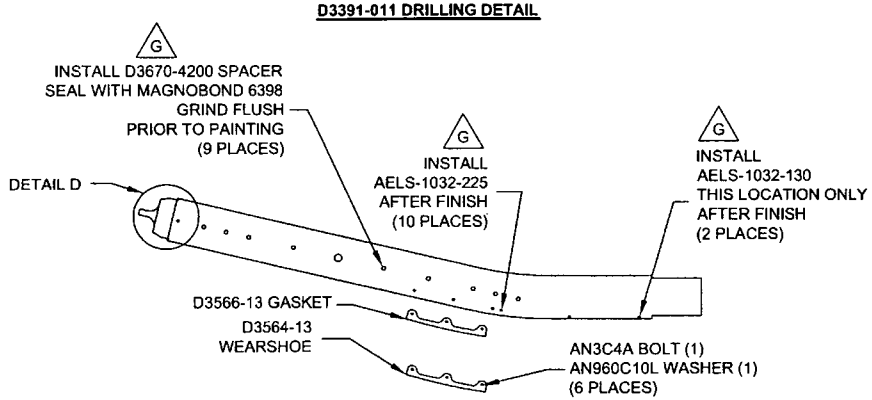
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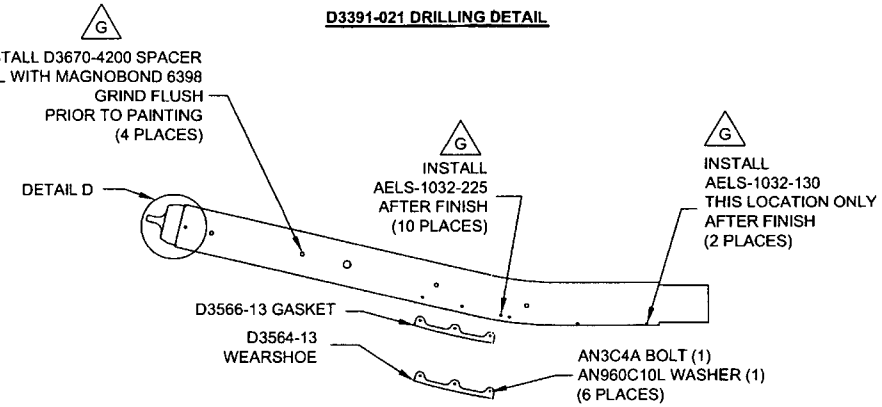
D3391-011 DRILLING DETAIL



D3391-021 DRILLING DETAIL



D3391-011 ASSEMBLY DETAIL

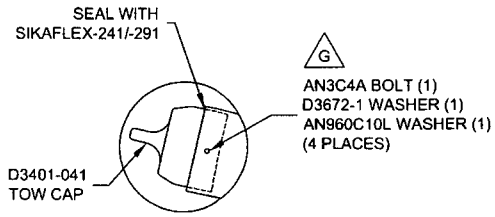


D3391-021 ASSEMBLY DETAIL

RELEASED
07.11.06

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

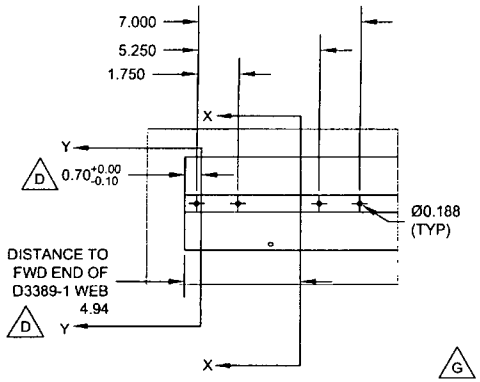
QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
2	2	AELS-1032-130	INSERT
10	10	AELS-1032-225	INSERT



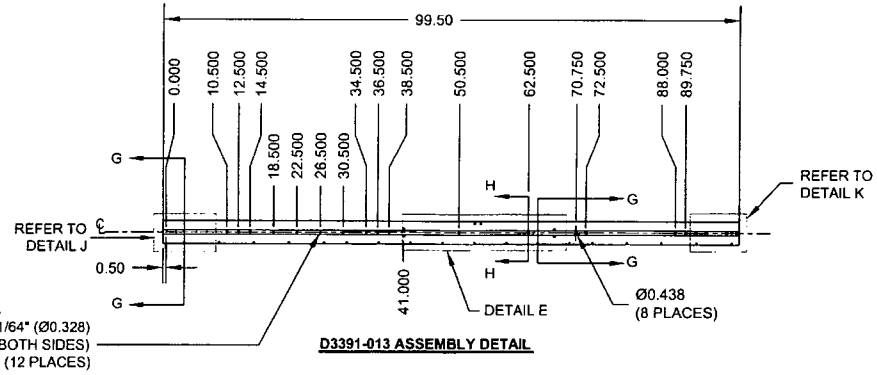
DETAIL D
(SCALE 1:5)

DESIGN		**DART AEROSPACE USA, INC**
DRAWN		PORT HADLOCK, WA
CHECKED		DRAWING NO. D3391 — REV. G — SHEET 4 OF 8
MFG. APPR.		
APPROVED		TITLE: 412 FLOAT SKIDTUBE — SCALE: 1:10
DE APPR.		
DATE: 07.07.31		

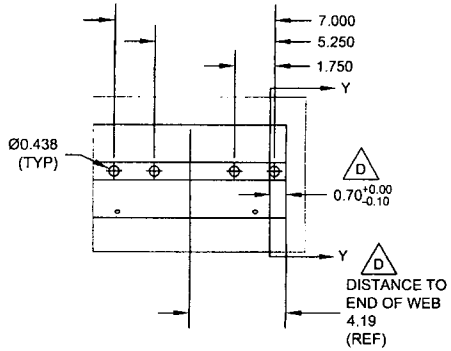
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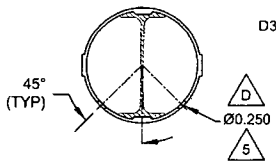
DETAIL J
(SCALE 1:5)



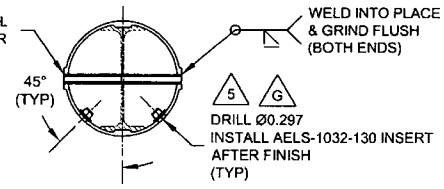
D3391-013 ASSEMBLY DETAIL



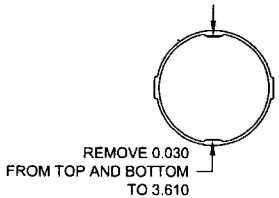
DETAIL K
(SCALE 1:5)



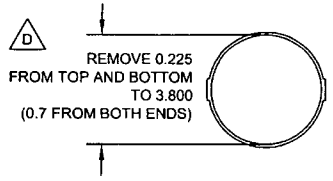
SECTION G-G
(SCALE 1:4)



SECTION H-H (12 PLACES)
(SCALE 1:4)



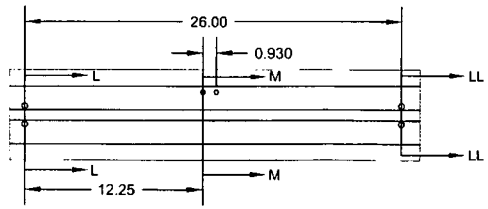
SECTION X-X
(SCALE 1:4)



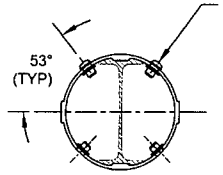
SECTION Y-Y
(SCALE 1:4)

D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY -013	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
12	D3681-1	SPACER
4	D3672-1	WASHER
4	D3672-3	WASHER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

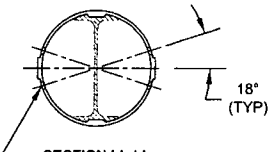


DETAIL E
(SCALE 1:8)



SECTION M-M
(SCALE 1:4)

G
DRILL Ø0.297
INSTALL AELS-1032-130 INSERT
MS27039C1-09 SCREW
D3672-1 WASHER
AN960C10L WASHER
AFTER FINISH
(TYP 4 PLACES)

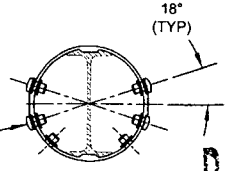


SECTION LL-LL
(SCALE 1:4)

D3391-013 MID TUBE ASSEMBLY

1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
3) WELDING: PER DART QSI 004

G



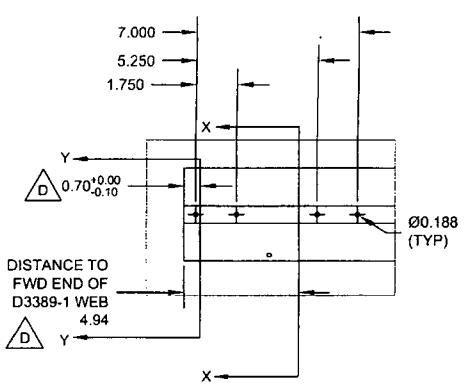
G
DRILL Ø0.391
INSTALL ALS4-428-165 INSERT
MS27039C4-08 SCREW
D3672-3 WASHER
AN960C416L WASHER
AFTER FINISH
(TYP 4 PLACES)

SECTION L-L
(SCALE 1:4)

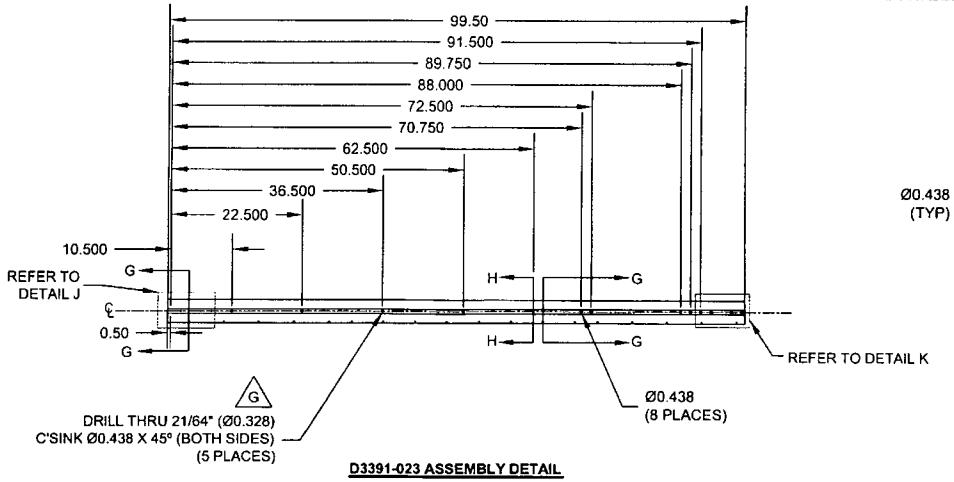
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DESIGN	AH	**DART AEROSPACE USA, INC** PORT HADLOCK, WA
DRAWN	SDE	DRAWING NO. D3391 REV. G
CHECKED		SHEET 5 OF 8
MFG. APPR.		TITLE 412 FLOAT SKIDTUBE
APPROVED		SCALE 1:20
DE APPR.		
DATE 07.07.31		

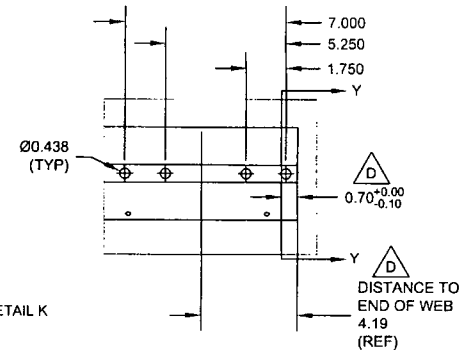
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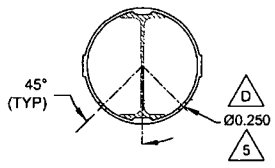
DETAIL J
(SCALE 1:5)



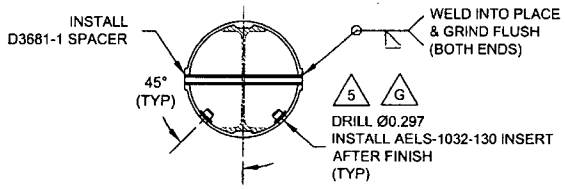
D3391-023 ASSEMBLY DETAIL



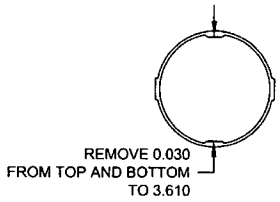
DETAIL K
(SCALE 1:5)



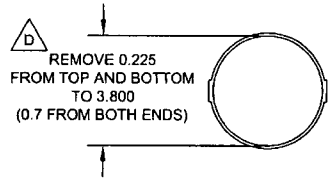
SECTION G-G
(SCALE 1:4)



SECTION H-H (5 PLACES)
(SCALE 1:4)



SECTION X-X
(SCALE 1:4)



SECTION Y-Y
(SCALE 1:4)

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

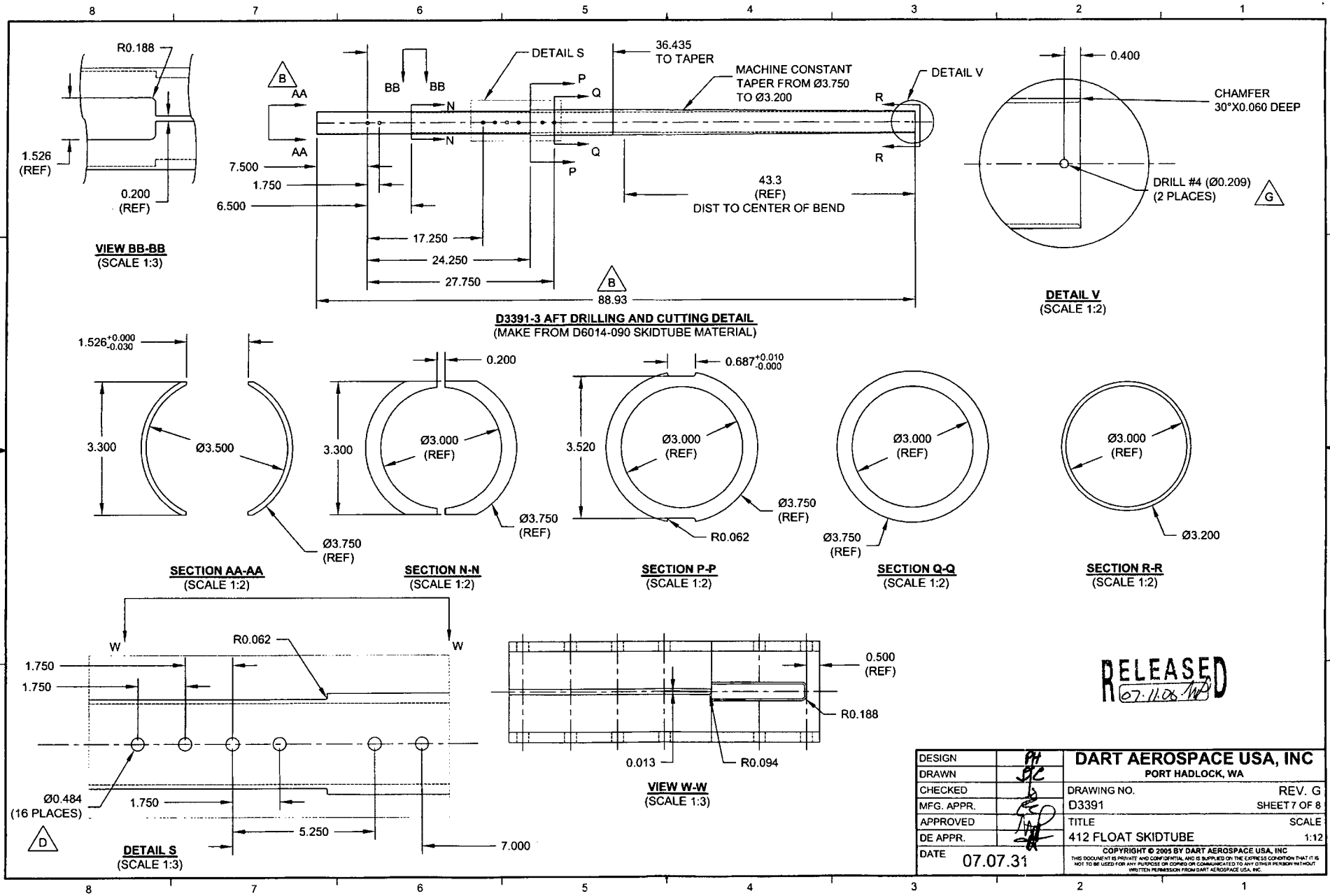
RELEASED
07.11.06

D3391-023 MID TUBE ASSEMBLY

1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
3) WELDING: PER DART QSI 004

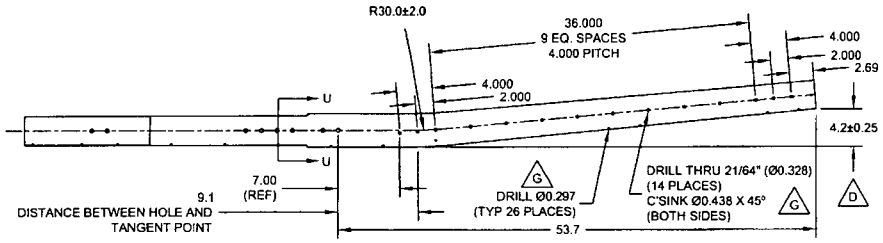
DESIGN	AH	**DART AEROSPACE USA, INC** PORT HADLOCK, WA
DRAWN	DE	
CHECKED		DRAWING NO. D3391 — REV. G — SHEET 6 OF 8
MFG. APPR.		
APPROVED		TITLE: 412 FLOAT SKIDTUBE — SCALE: 1:20
DE APPR.		
DATE	07.07.31	

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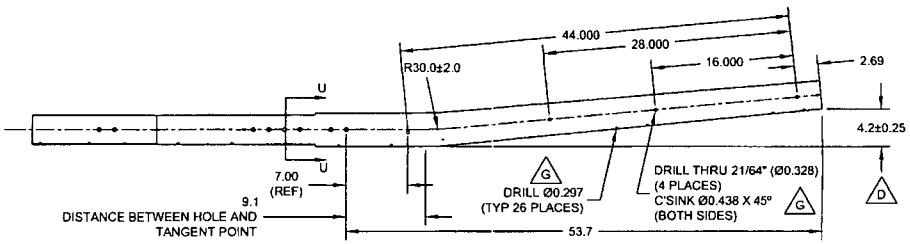


DESIGN		DART AEROSPACE USA, INC
DRAWN		PORT HADLOCK, WA
CHECKED		DRAWING NO. D3391 — REV. G — SHEET 7 OF 8
MFG. APPR.		
APPROVED		TITLE: 412 FLOAT SKIDTUBE — SCALE: 1:12
DE APPR.		
DATE	07.07.31	

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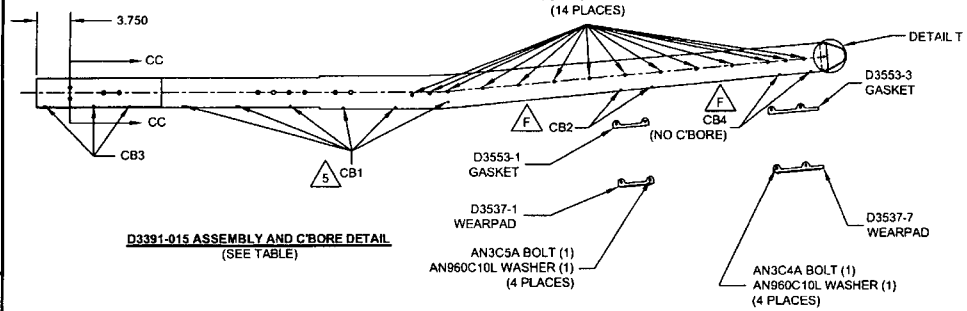


D3391-015 BENDING AND DRILLING DETAIL
(SEE C'BORE DETAIL BELOW)



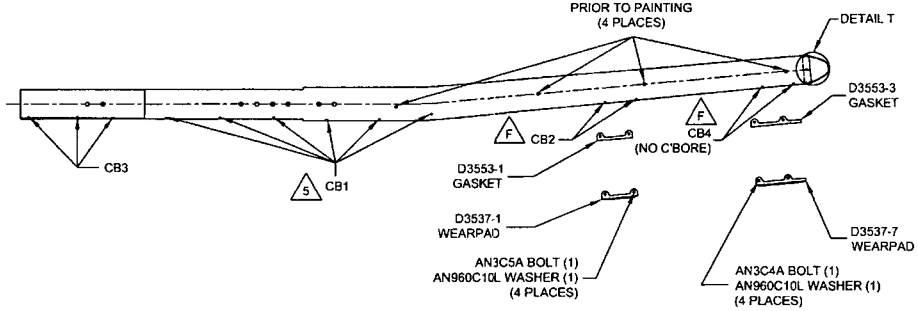
D3391-025 BENDING AND DRILLING DETAIL
(SEE C'BORE DETAIL BELOW)

G INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
(14 PLACES)



D3391-015 ASSEMBLY AND C'BORE DETAIL
(SEE TABLE)

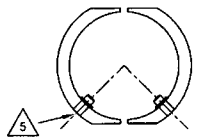
G INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
(4 PLACES)



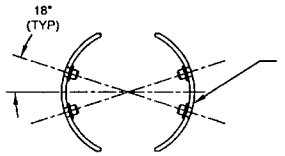
D3391-025 ASSEMBLY AND C'BORE DETAIL
(SEE TABLE)

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

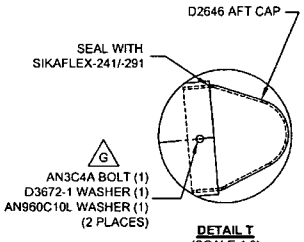


SECTION U-U
(SCALE 1:3)



G DRILL Ø0.391
C'BORE Ø0.516 X 0.040 DEEP
INSTALL ALS4-428-165 INSERT (1)
(4 PLACES)

SECTION CC-CC
(SCALE 1:3)



DETAIL T
(SCALE 1:3)

C'BORE HOLES MARKED CB1-CB4 AS FOLLOWS AND G
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'BORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

RELEASED
07.11.06

DESIGN	AH	**DART AEROSPACE USA, INC** PORT HADLOCK, WA
DRAWN	SDC	
CHECKED	5	DRAWING NO. D3391 — REV. G — SHEET 8 OF 8
MFG. APPR.		
APPROVED		TITLE: 412 FLOAT SKIDTUBE — SCALE: 1:12
DE APPR.		
DATE	07.07.31	

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Date: Friday, 5/25/2007 8:26:40 AM
User: Kim Johnston

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: FWD TUBE ASSEMBLY
Job Number	: 32630		
Estimate Number	: 11444		
P.O. Number	:	Part Number	: D3391011
This Issue	: 5/25/2007 S.O. No. :	Drawing Number	: D3391 REV F G
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: / / Type : MACHINED PARTS	Drawing Revision	: F G
Previous Run	:	Material	:
Written By	:	Due Date	: 6/20/2007 Qty: 1 Um: Each
Checked & Approved By	: 07.05.28		
Comment	: Est. A 05.09.13 New issue KJ/JLM		
	Est. B 06.02.09 Dwg rev.D EC		
	est C 07.03.13 revF dwg ec		

Additional Product

Job Number:

Seq. #:	✓	Machine Or Operation:	Description :
1.0	✓	D6013047	SKIDTUBE MAT'L

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
SKIDTUBE MAT'L
Pick:

Qty	Part Number	Description	Batch
1	D6013-047	Extrusion	B26547 DP 7-7-13

2.0	✓	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1
Cut extrusion to 46.52 +0.010 -0.020 DP 7-7-13

3.0	✓	BENDING	BENDING MACHINE

Comment: Nc bender
Bend as per Dwg D3391 DP 7-7-13

4.0	✓	QC5	INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP JF 8-7-16

5.0	✓	HAAS1	HAAS CNC VERTICAL MACHINING #1

Comment: HAAS CNC VERTICAL MACHINING #1
1-Machine as per Folio FA590 Rev. EA & Dwg D3391 Rev. G
Identify as D3391-1

2-Deburr MK 08/07/16 (L)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:26:40 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** FWD TUBE ASSEMBLY

Job Number: 32630 **Part Number:** D3391011

Job Number:

Seq. #:		Machine Or Operation:	Description :
6.0	✓	QC2	INSPECT PARTS AS THEY COME OFF MACHINE

Comment: INSPECT PARTS AS THEY COME OFF MACHINE GMK 05/02/16 (1)

7.0	✓	QC8	SECOND CHECK

Comment: SECOND CHECK

8.0	✓	LANDING GEAR 1	LANDING GEAR RESOURCE 1

Comment: LANDING GEAR RESOURCE 1

1-Drill and c'sink ~~and c'sink~~ float bag holes only as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size) (DRILL ALL HOLES)

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5-Drill wearplate holes as per Dwg D3391 Using Dt8217

6--Deburr

9.0	✓	HAND FINISHING1	HAND FINISHING RESOURCE #1

Comment: HAND FINISHING RESOURCE #1
Acid etch and Alodine as per QSI 005 4.1

10.0	✓	POWDER COATING	POWDER COATING

Comment: POWDER COATING
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

11.0	✓	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION

Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:26:40 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** FWD TUBE ASSEMBLY

Job Number: 32630 **Part Number:** D3391011

Job Number:

Seq. #:	Machine Or Operation:	Description :
12.0 ✓	~~D3401041~~	Tow Cap Assembly

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
Tow Cap Assembly
Pick:

Qty	Part Number	Description	Batch
1	D3401-041	Tow Cap	~~B503116~~ B 362160

10-02-17 (XL)

13.0	~~D356413~~	WEARSHOE

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
WEARSHOE 1339791 10/02/17 KL

14.0	~~D356613~~	GASKET

Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
GASKET 1334574 10/02/17 KL

15.0	~~AN3C4A~~	BOLT

Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
Bolt
Pick:

Qty	Part Number	Description	Batch
4	AN3C4A	Bolt	M113644

10/02/17 (KL)

16.0	~~NAS1515H3L~~	WASHER

Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)
Washer
Pick: ~~D3672-1~~

Qty	Part Number	Description	Batch
4	~~NAS1515H3L~~	Washer	B47628

10/02/17 (KL)

17.0	~~AN960C10L~~	washer

Comment: Qty.: 10.0000 Each(s)/Unit Total : 10.0000 Each(s)
Washer
Pick:

Qty	Part Number	Description	Batch
4	? AN960C10L	Washer	M113288

NAS1149C0332R 10/02/17 KL

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Date: Friday, 5/25/2007 8:26:40 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services **Drawing Name:** FWD TUBE ASSEMBLY

Job Number: 32630 **Part Number:** D3391011

Job Number:

Seq. #:	Machine Or Operation:	Description :
18.0	NAS1330C3KB166	INSERT

Comment: Qty.: 30.0000 Each(s)/Unit Total : 30.0000 Each(s)
Rivnut
Pick:

Qty	Part Number	Description	Batch
24	NAS1330C3KB166	Insert	_ _____

See reprint w/o

19.0	✓	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1

Comment: SMALL & MEDIUM FAB RESOURCE 1
Install inserts and Tow Cap as per Dwg D3391
Identify as D3391-021

20.0	✓	QC5	INSPECT WORK TO CURRENT STEP

Comment: INSPECT WORK TO CURRENT STEP
Inspect thread of each insert using DT8821

21.0	✓	PACKAGING 1	PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1
Identify and Stock
Location:_____

22.0		QC21	FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

QA: N/C Closed: _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	32630
Description: Float Skidtube (412)	Part Number:	D3391-1
Inspection Dwg: D3391 **Rev:** F C1		Page 1 of 1

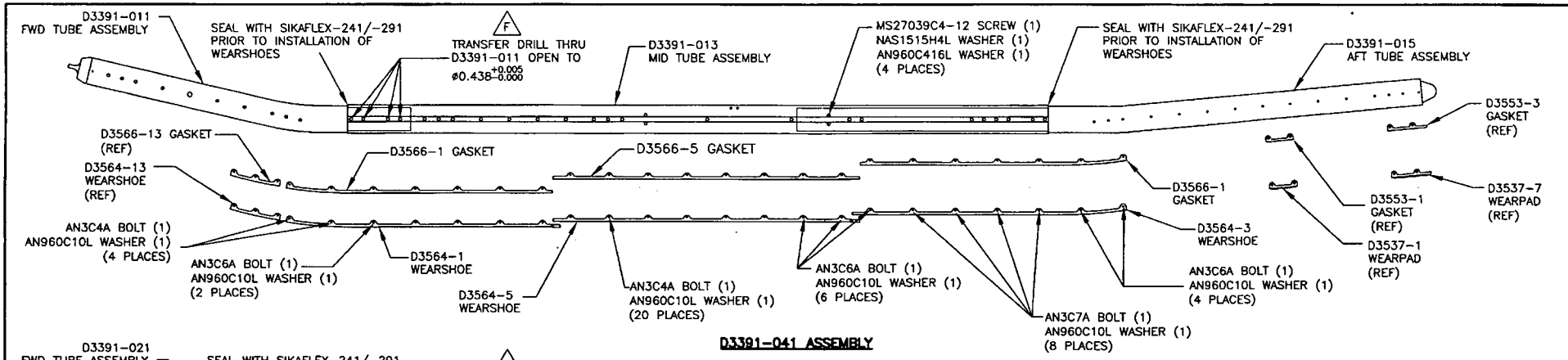
FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [] Prototype

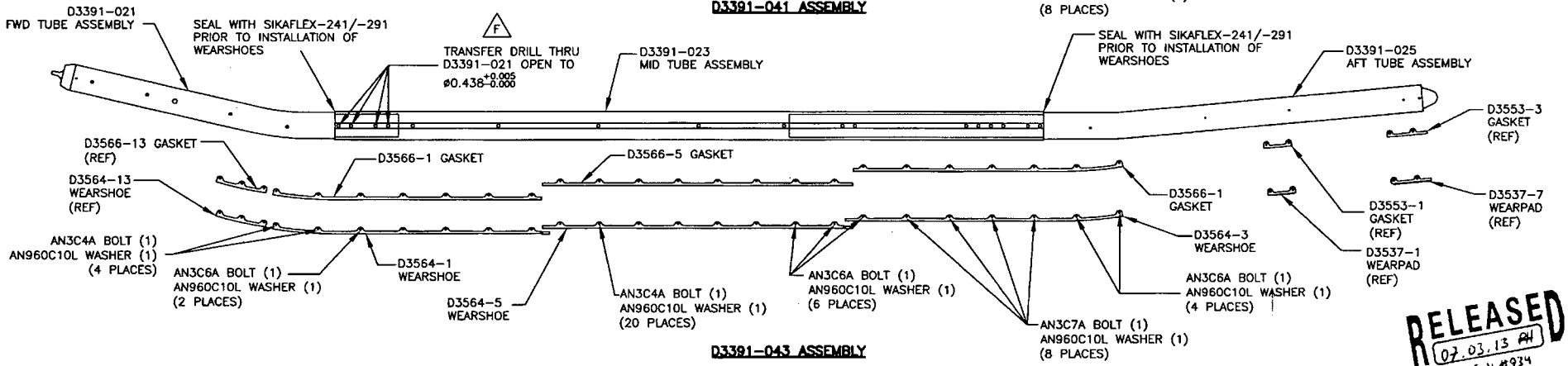
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.687	+0.010/-0.000	.688	✓			
3.590	+0.025/-0.010	3.614	—			
3.300	+0.040/-0.000	3.325	—			
1.429	+0.040/-0.060	1.390	—			
4.250	+/-0.010	4.250	—			
4.250	+/-0.010	4.250	—			

Measured by:		Audited by:		Prototype Approval:	N/A
Date:	08/07/16	Date:	08/07/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.04.27	New Issue P/O D3391-011/-021	KJ/JLM	
B	06.06.19	Tolerances revised per D3391 Rev. E	KJ/JLM	
C	07.03.21	Dimensions removed per Dwg rev. F	KJ/JLM	



D3391-041 ASSEMBLY



D3391-043 ASSEMBLY

RELEASED
07.03.13 PH
per E-N #934

D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY -041	QTY -043	PART NUMBER	DESCRIPTION
X		D3391-041	FLOAT SKIDTUBE ASSEMBLY
	X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
1	1	D3564-1	WEARSHOE
1	1	D3564-3	WEARSHOE
1	1	D3564-5	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER

GENERAL NOTES

1) ALL DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
 POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (ø0.250-ø0.257) FOR WEARSHOE INSERTS. C'SINK ø0.391/ø0.425 x 100° AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.

F	07.01.18	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021
E	06.04.25	CHANGE TOLERANCE,EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE

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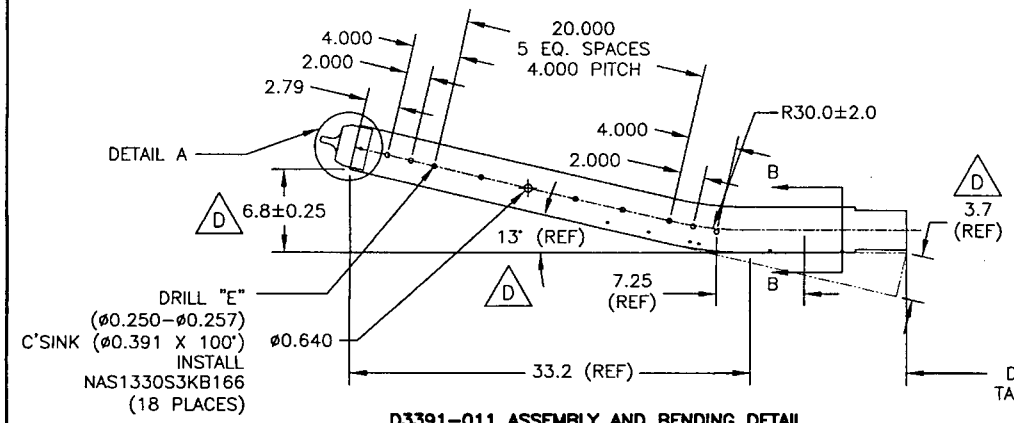
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APPROVED	
DATE	07.01.18

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PORT HADLOCK, WA

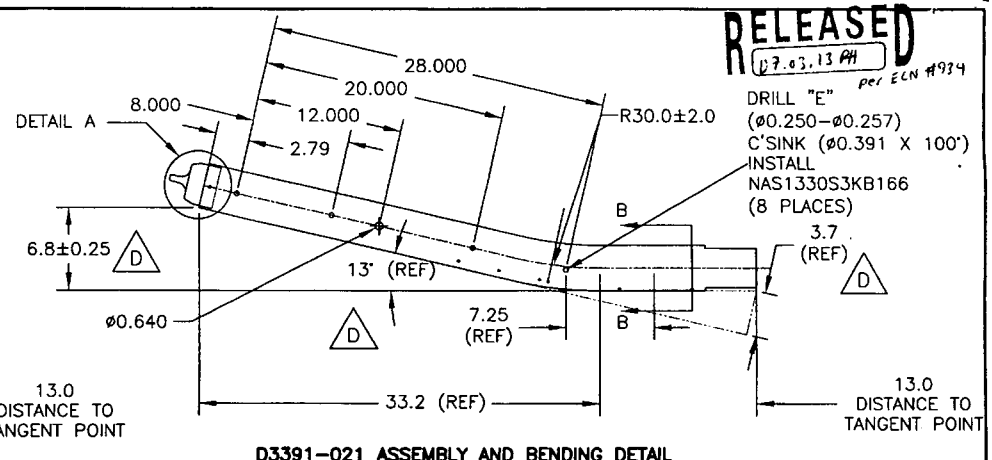
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REV.	F
SHEET	1 OF 5
TITLE	412 FLOAT SKIDTUBE
SCALE	NTS

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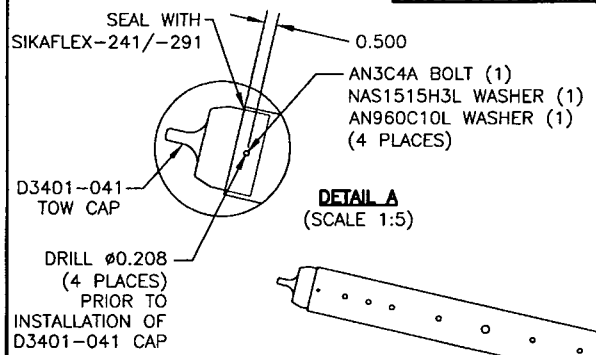
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07.03.13 PH
per ECN #934



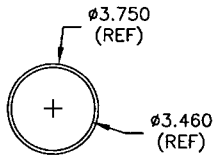
D3391–011 ASSEMBLY AND BENDING DETAIL



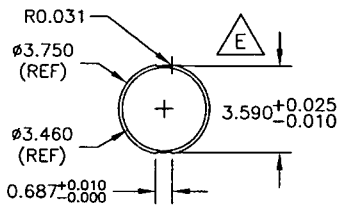
D3391–021 ASSEMBLY AND BENDING DETAIL



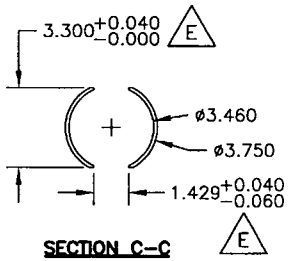
DETAIL A
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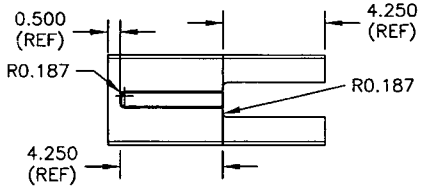
SECTION E–E
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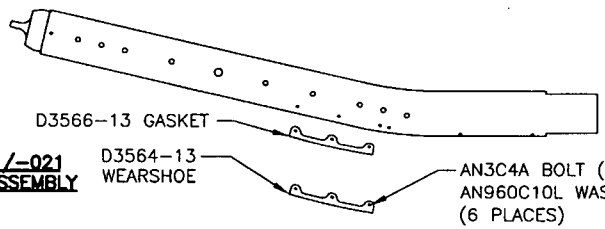
SECTION D–D
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SECTION C–C
(SCALE 1:5)



VIEW Z–Z
(SCALE 1:5)



D3391–011/–021
WEARSHOE ASSEMBLY

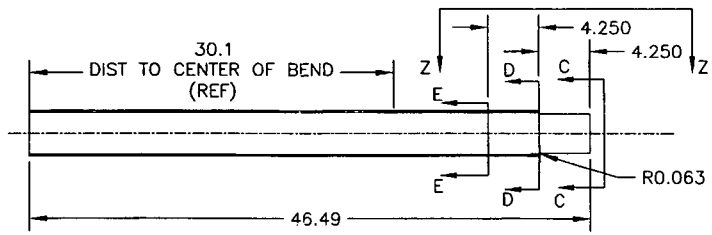
D3391–011/–021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
10	10	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
10	10	AN960C10L	WASHER
30	20	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)

5 DRILL "E"
(ø0.250–ø0.257)
C'SINK (ø0.391 X 100°)
INSTALL
NAS1330S3KB166
(12 PLACES)



SECTION B–B
(SCALE 1:5)

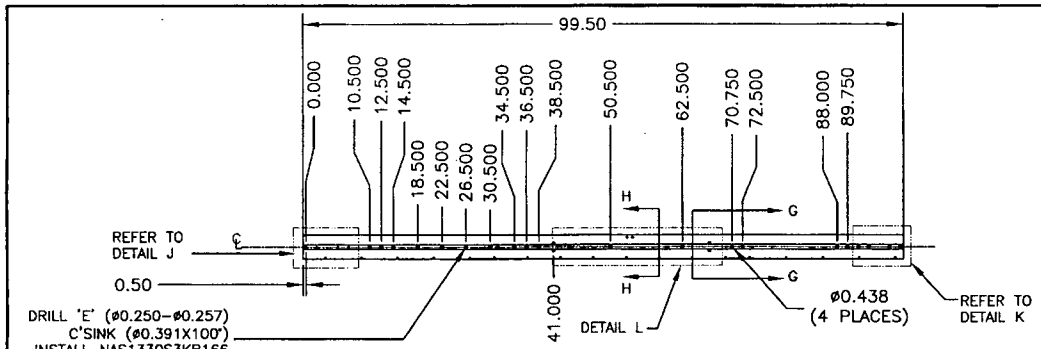


D3391–1 DRILLING AND CUTTING DETAIL
(MAKE FROM D6013–047 SKIDTUBE MATERIAL)

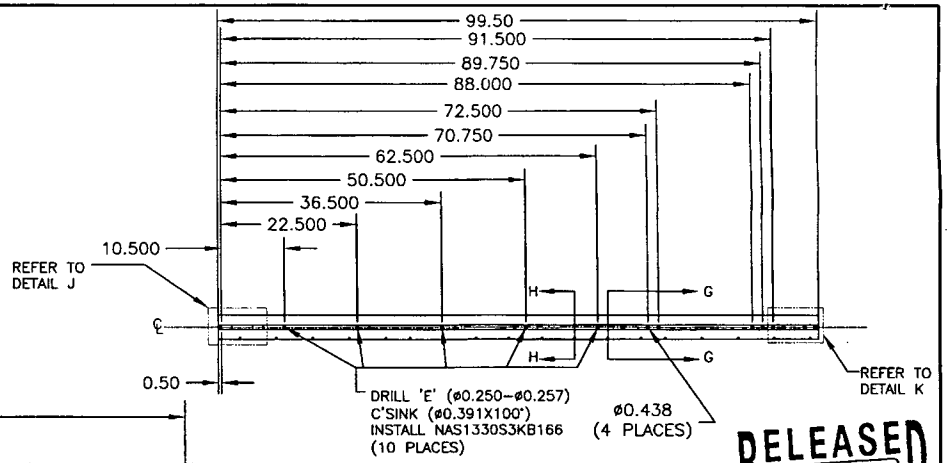
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DESIGN	DRAWN BY	DART AEROSPACE USA, INC. PORT HADLOCK, WA
PH	PH	
CHECKED	APPRCVED	DRAWING NO. D3391 REV. F
		SHEET 2 OF 5
DATE 07.01.18		TITLE 412 FLOAT SKIDTUBE SCALE 1:10

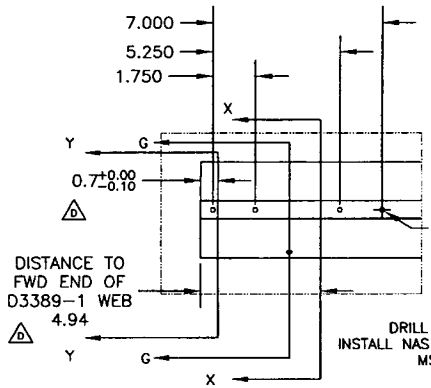


D3391-013 ASSEMBLY DETAIL

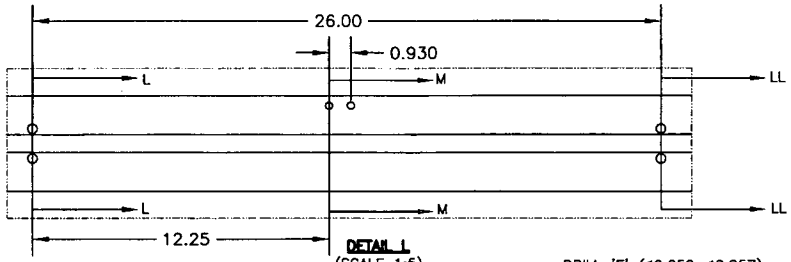


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PCI ECN #934

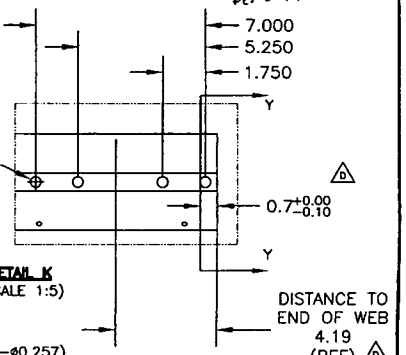
D3391-023 ASSEMBLY DETAIL



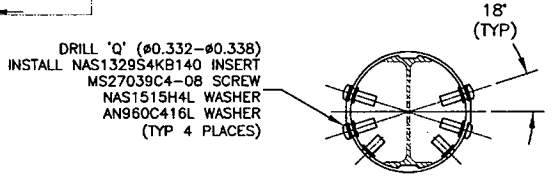
DETAIL J
(SCALE 1:5)



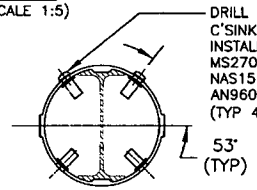
DETAIL L
(SCALE 1:5)



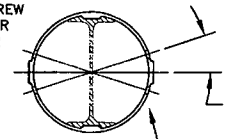
DETAIL K
(SCALE 1:5)



SECTION L-L
(SCALE 1:4)



SECTION M-M
(SCALE 1:4)



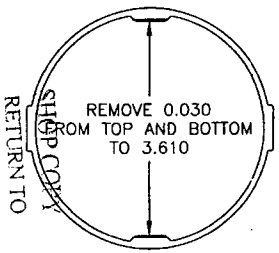
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D3391-013/-023 MID TUBE ASSEMBLY PARTS LIST

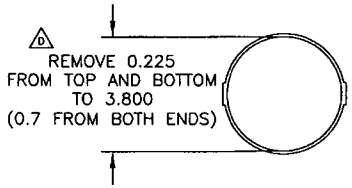
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X		D3391-013	MID TUBE ASSEMBLY
	X	D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330S3KB116	INSERT (OR NAS1330C3KB116)
24	10	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)
4		NAS1329S4KB140	INSERT (OR NAS1329C3KB140)
4		NAS1515H3L	WASHER
4		AN960C10L	WASHER
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
4		MS27039C1-09	SCREW
4		MS27039C4-08	SCREW

WORK ORDER NO. 329130

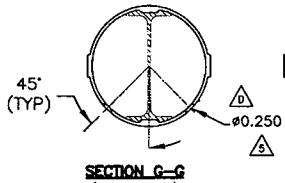
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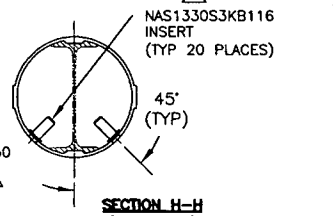
SECTION X-X
(SCALE 1:2)



SECTION Y-Y
(SCALE 1:4)



SECTION G-G
(SCALE 1:4)

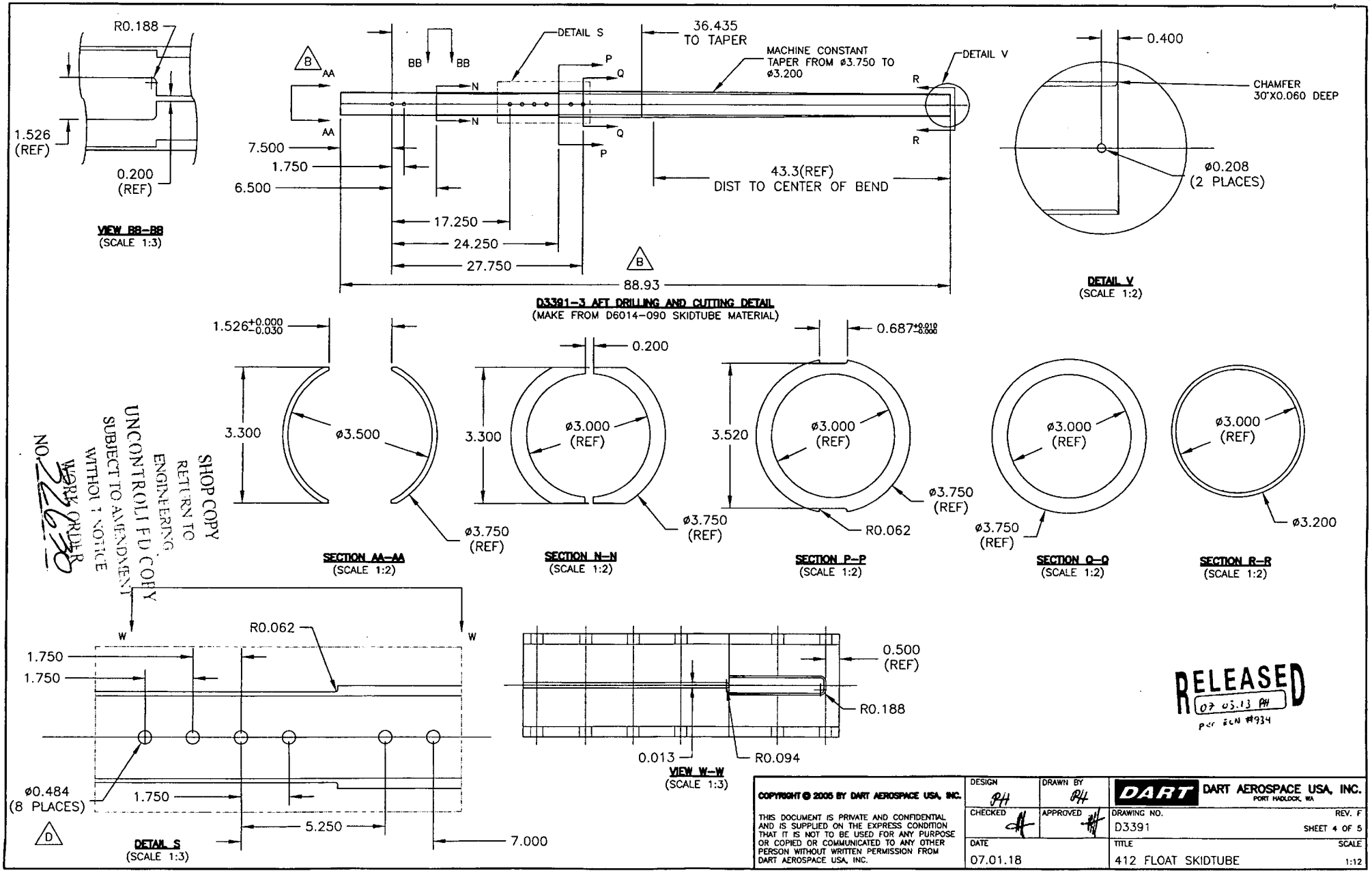


SECTION H-H
(SCALE 1:4)

D3391-013/-023 MID TUBE ASSEMBLY
1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015

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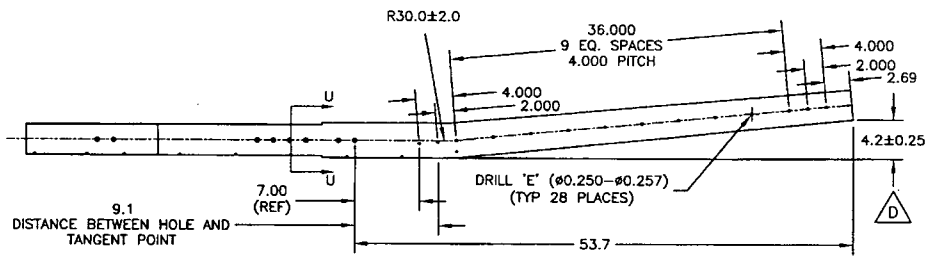
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AH	AH	
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		SHEET 3 OF 5
DATE 07.01.18		TITLE 412 FLOAT SKIDTUBE SCALE 1:20



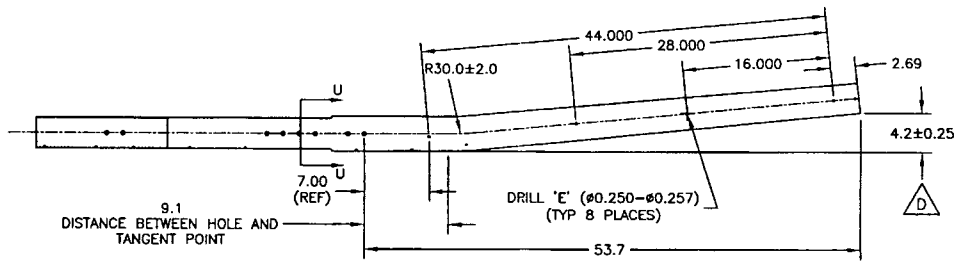
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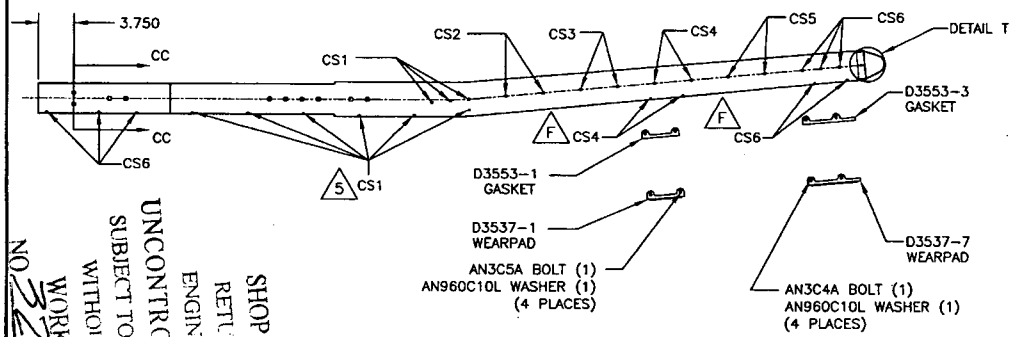
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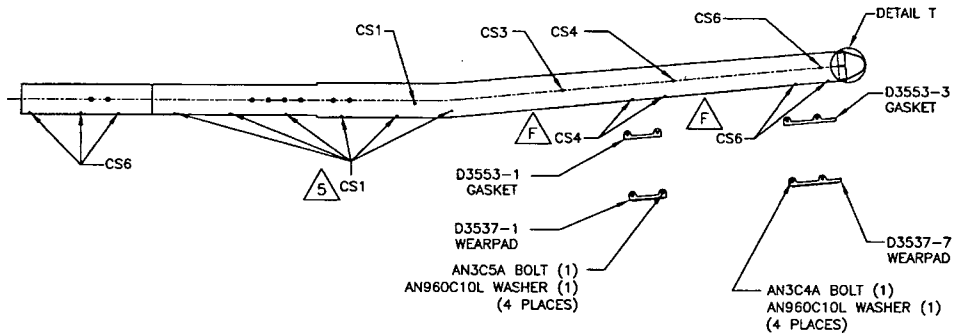
D3391–015 BENDING AND ASSEMBLY DETAIL



D3391–025 BENDING AND ASSEMBLY DETAIL



D3391–015 INSERT AND WEARPAD INSTALLATION DETAIL
(SEE TABLE)

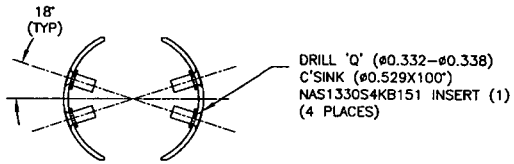


D3391–025 INSERT AND WEARPAD INSTALLATION DETAIL
(SEE TABLE)

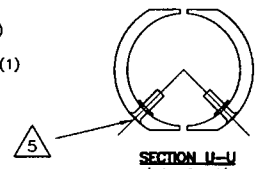
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D3391–015/–025 AFT TUBE ASSEMBLY PARTS LIST

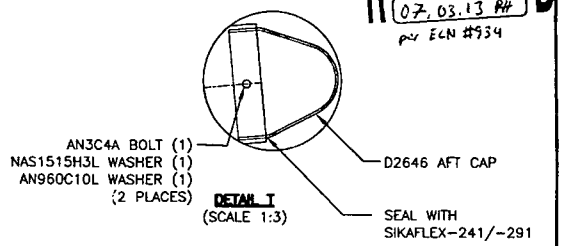
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
18	14	NAS1330S3KB366	INSERT (OR AES10KB366)
4	2	NAS1330S3KB316	INSERT (OR NAS1330C3KB316)
8	6	NAS1330S3KB266	INSERT (OR NAS1330C3KB266)
4		NAS1330S3KB216	INSERT (OR NAS1330C3KB216)
16	12	NAS1330S3KB166	INSERT (OR NAS1330C3KB166)
4		NAS1330S4KB151	INSERT (OR NAS1330C4KB151)
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
2	2	NAS1515H3L	WASHER
10	10	AN960C10L	WASHER



SECTION CC–CC
(SCALE 1:3)



SECTION U–U
(SCALE 1:3)



DETAIL T
(SCALE 1:3)

RELEASED
07.03.13 RH
per ECN #934

C'SINK AND INSTALL NAS1330S3KBXXX IN HOLES MARKED CS1–CS6 AS FOLLOWS

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	P/N
CS1	18	14	∅0.425	NAS1330S3KB366
CS2	4		∅0.391	NAS1330S3KB366
CS3	4	2	∅0.391	NAS1330S3KB316
CS4	8	6	∅0.391	NAS1330S3KB266
CS5	4		∅0.391	NAS1330S3KB216
CS6	16	12	∅0.391	NAS1330S3KB166

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CHECKED	APPROVED	DRAWING NO. D3391 — REV. F
		SHEET 5 OF 5
DATE 07.01.18		TITLE 412 FLOAT SKIDTUBE — SCALE 1:12